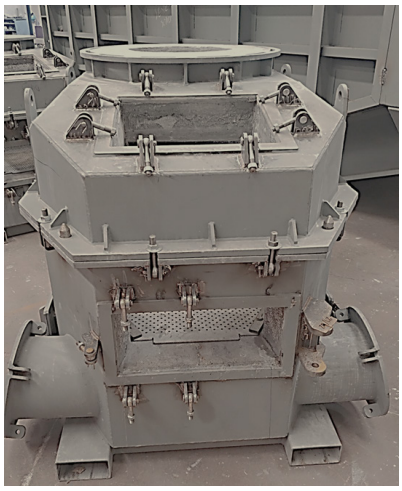
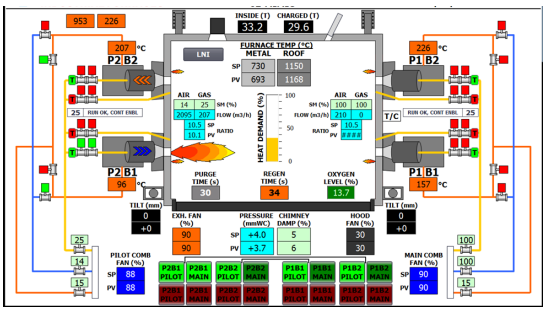
Revolutionizing Industrial Burners:
The Phoenix Vortex Flame Regenerative Burners



In the quest for more sustainable industrial practices, the development of efficient burning processes has become paramount. Addressing this need, the Sistem Teknik R&D Centre introduces the Phoenix Vortex Flame Regenerative Burners, a groundbreaking innovation emerging from the Retrofeed project, funded by the European Commission's Horizon 2020 initiative. Designed to significantly reduce greenhouse gas emissions, particularly in the realm of NOx emissions, Phoenix promises to revolutionize industrial burning processes.



At the core of Phoenix's efficiency lies its unique design and operational capabilities. Collaborating with the Institute of Power Engineering, Research Institute, Poland (IEN), the Retrofeed project conducted comprehensive Computational Fluid Dynamics (CFD) simulations and analyses to optimize the burner heads. The results speak volumes: Phoenix outperforms international counterparts in NOx emission reduction while maintaining operational efficiency.

Operating at nominal power with specific gas and air flows, Phoenix's design minimizes dross formation and accommodates higher levels of contaminated scrap, further enhancing its environmental credentials. Notably, Phoenix integrates seamlessly with oxygen injector systems, ensuring low NOx burning across various melting furnaces throughout Europe. The automation prowess of Phoenix extends beyond mere efficiency; it offers a fully automated melting process, adjusting air and gas inputs for optimal performance.

Phoenix operates on a cycle priority principle, activating burners individually in short cycles to stabilize furnace atmosphere pressure levels. Its production phases, intricately tied to temperature values and loading tonnages, ensure seamless operation and enhanced energy efficiency. Moreover, Phoenix prioritizes user experience through mechanical innovations such as drop gate mechanisms and quick-change lids for maintenance, highlighting a holistic approach to industrial burner design.

In the landscape of industrial burners, Phoenix emerges as a beacon of sustainability and efficiency. Its development, spurred by the collaborative efforts of the Sistem Teknik R&D Centre and partners under the Retrofeed project, signifies a significant stride towards greener industrial practices. By reducing greenhouse gas emissions, enhancing operational efficiency, and prioritizing user experience, Phoenix sets a new standard for burner technology.

As it integrates into projects at sites of industry leaders such as ASAŞ Aluminium and Sistem Aluminium, Phoenix promises to reshape industrial processes, paving the way for a more sustainable future. With its innovative design, operational prowess, and environmental benefits, Phoenix Vortex Flame Regenerative Burners stand poised to catalyze a paradigm shift in industrial burning practices, marking a transformative chapter in the journey towards sustainability.